never
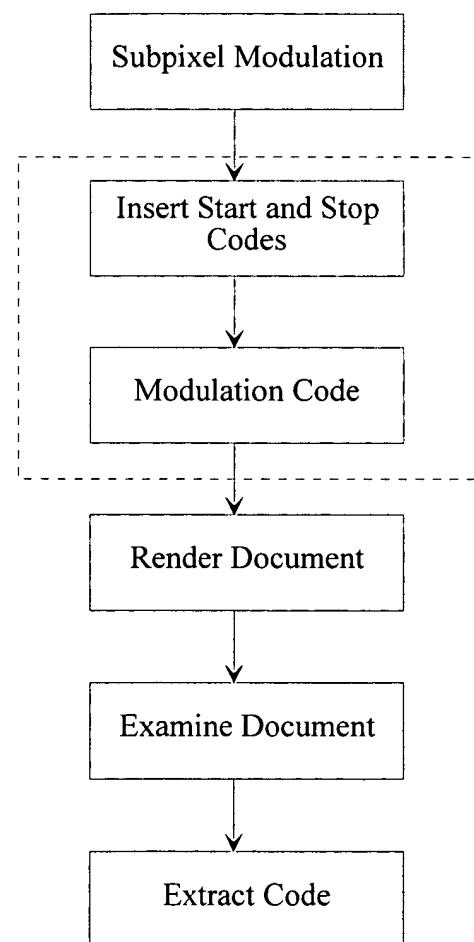
Figure 1

$$
\begin{array}{cccc}
0 & 1 & ① & 1 \\
0 & 0 & 1 & ① \\
0 & 0 & 0 & 1
\end{array}
$$

Figure 2a

$$
\begin{array}{cccc}
0 & 1 & ① & 1 \\
0 & 0 & 1 & ① \\
0 & 0 & 0 & 1
\end{array}
$$

Figure 2b

Subpixel Modulation

Insert Start and Stop Codes

Modulation Code

Render Document

Examine Document

Extract Code

Figure 3